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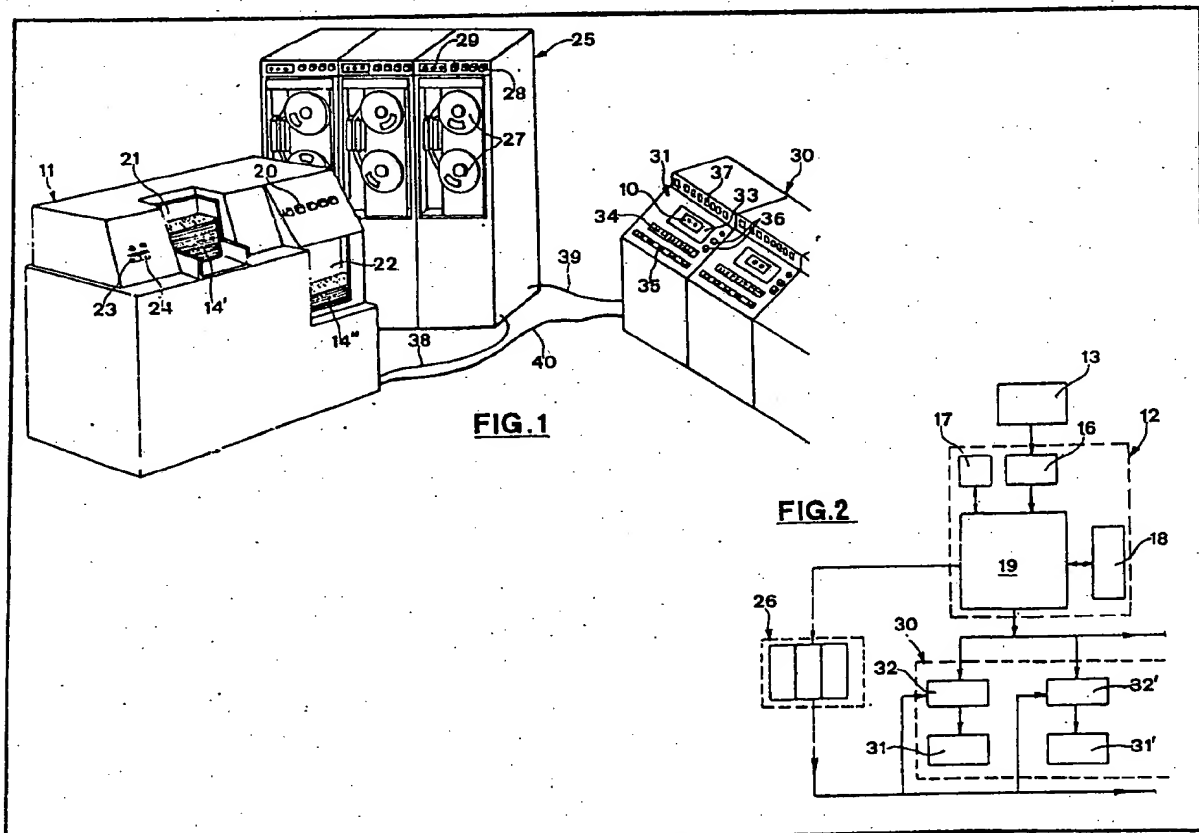
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(54) System for the production of tape cassettes, cartridges or the like

(57) An electronic-mechanical automatic system for the production of audio and/or video tape cassettes, cartridges or the like comprises a central memory store (25) of pieces for recording on the cassettes, cartridges or the like, a computer (11, 12) with an input device (13) for pre-recorded instructions, and an apparatus (30) for recording tape

cassettes, cartridges or the like connected to storage means, the computer making a search in the central memory store (25) for one or more pieces, according to the pre-recorded instructions, and sending these pieces to the storage means of the recording unit (30), this unit (30) then recording on tapes contained in the cassettes, cartridges (10) or the like, pieces corresponding to those indicated by the pre-recorded instructions and in the same order as the pre-recorded instructions, the pre-recorded instructions having been prepared by the manufacturer of tape cassettes, cartridges (10) or the like in accordance with the instructions he has received from the customer.



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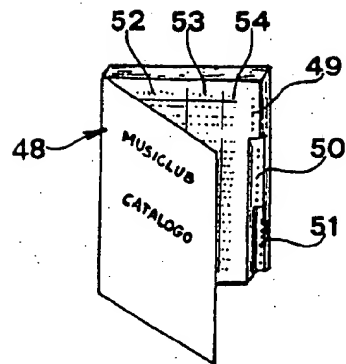


FIG. 3

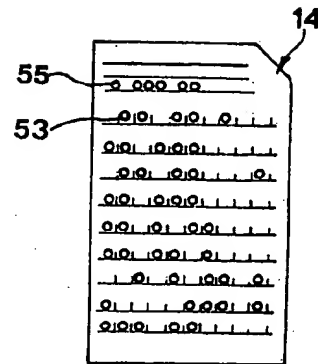


FIG. 4

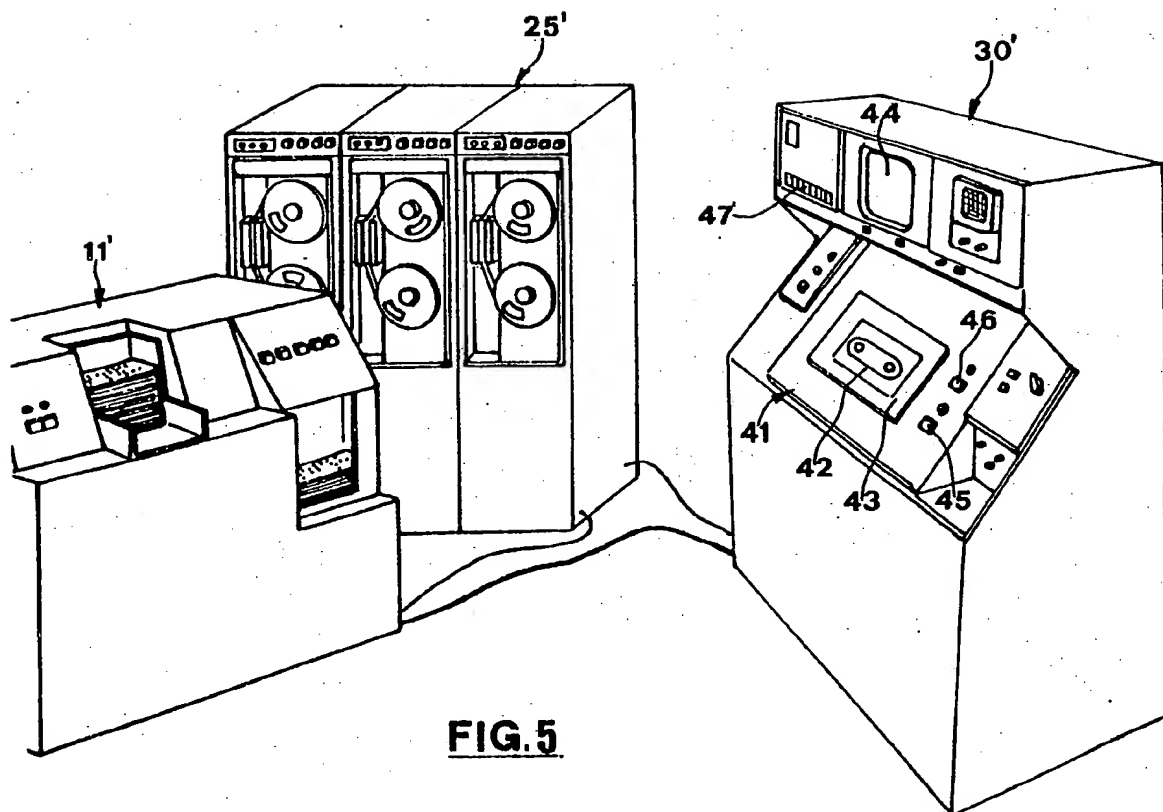


FIG. 5

SPECIFICATION

System for the production of tape cassettes cartridges or the like

This invention relates to a system for making
5 "Personalized" Audio Tape Cassettes and Video
Tape Cartridges or the like. Well known to all are
the audio tape cassettes, cartridges, or the like
and video cartridges or the like making it possible
to reproduce various pieces such as songs,
10 melodies, reportages, shows, recitals,
documentaries, teaching material, extracts from
films and from television shows, anything
generally that people want to hear or see. In this
specification and claims, the terms "cassettes"
15 and "cartridges" include all forms of media on
which suitable recordings can be made. Such
media include both cassettes and cartridges
together with reel to reel tapes etc.

Frequently the user would prefer pieces other
20 than those on sale and especially one or more of
those recorded on tape cartridges for audio or for
video which oblige him to purchase undesired
pieces. On the other hand the maker clearly
cannot put tape cartridges on sale with pieces so
25 assorted as to please everyone as too much
storage space would be needed and costs
become prohibitive. The invention offers a
solution to the problem together with many other
advantages as will be explained here below.

30 The invention seeks to provide a system
whereby audio tape cassette cartridges and video
tape cartridges, or equivalent means, can be
recorded with pieces chosen by the customer,
namely "personalized" tape cartridges.

35 According to a first aspect of the invention,
there is provided an electronic-mechanical
automatic system for central memory store of
pieces for recording on the cassettes, cartridges
or the like, a computer with an input device for
40 pre-recorded instruction, an apparatus for
recording tape cassettes cartridges or the like
connected to storage means, the computer
making a search in the central memory store for
one or more pieces, according to the pre-recorded
45 instructions and sending these pieces to the
storage means of the recording unit, this unit then
recording on tapes contained in the cassettes
cartridges or the like, pieces corresponding to
those indicated by pre-recorded instruction and in
50 the same order as the pre-recorded instructions,
the pre-recorded instructions having been
prepared by the manufacturer of tape cassettes
cartridges or the like in accordance with the
instructions he has received from the customer.

55 According to a second aspect of the invention,
there is provided an automatic electronic
mechanical system for the production of audio
cartridges, for audio cassettes or the like wherein
the system comprises a central memory store of
60 manual recordings for audio cassettes, a
computer with an input device for pre-recorded
instructions, an apparatus for recording audio
tape cassettes connected to storage means, the
computer making a search in the central memory

65 store for one or more musical works, according to
the instructions provided at its input device, and
sending these recordings to the storage means of
the recording unit, this unit then recording on
audio tape cassettes pieces corresponding to
70 those indicated by input device and in the same
order as indicated by the input device, the pre-
recorded instructions having been prepared by the
manufacturer of the audio tape cassettes in
accordance with the instructions he has received
75 from the customer.

According to the third aspect of the invention,
there is provided an electronic mechanical system
for the production of video tape cartridges
wherein the system comprises a central memory
80 store in which a number of television film shows,
recitals, films and pieces generally for video tape
cartridges are recorded; a computer with an input
device for pre-recorded instructions means, and
an apparatus for recording video tape cartridges
85 connected to storage means, the computer
making a search in the central memory store for
one or more pieces for video tape cartridges, in
accordance with the instructions at the input
device, and transmitting these pieces to the
90 storage means of the recording unit, this unit then
recording on the video tapes contained in the
cartridges, pieces corresponding to those
indicated by the pre-recorded instructions and in
the same order as the pre-recorded instructions,
95 the pre-recorded instructions having been
prepared by the manufacturer of video tape
cartridges in accordance with the instructions
given him by the customer.

The purchaser or customer may choose his
100 pieces from a catalogue published periodically by
the organisation which makes and sells the tape
cassettes or cartridges.

The catalogue may give the titles of the
musical and video pieces available, the names of
105 those executing them (singers, orchestras, actors,
speakers, lecturers, performers generally), the
code number belonging to each title, the exact
time taken for playing the whole tape and for each
single piece. The equipment for recording the tape
110 cartridges with pieces chosen by the customer
may include the central memory store, a
computer with punched card reader, and the
recorder itself.

The computer may comprise a transit memory
115 unit, a logic-mathematical unit, another unit
constituting the working memory store and a
further one for control and operation. The central
memory store may operate by a set of magnetic
tapes or discs, or their equivalent, and on these
120 may be recorded, according to their code, all the
pieces included in the computer with all the data
needed for controlling the recordings.

The recording equipment may comprise a set
of units for recording tape cartridges for audio or
125 for video, each of which is connected to a
peripheral memory.

The customer or user makes his choice of the
pieces he wants to have recorded on a single tape
cartridge, naturally allowing for the performance

time of each one, and, by letter or by some other means, makes the code number known to the manufacturer who then prepares instructions, such as a user's punched card, accordingly.

5 In an embodiment where punched cards are used, having prepared the punch card, the manufacturer puts it into the card reader. The computer notes the information and passes it on to the transit memory controlled by the control unit which, aided by the logic-mathematical unit and by the working memory, searches for the requested pieces in the central memory store.

10 The computer then passes these pieces to the peripheral memories connected to the recording units; the pieces are then recorded on the tape cartridge in accordance with the orders sent through the punched card.

From the time the punched card is placed in the card reader the whole process is entirely automatic and is handled at each stage by the computer.

This invention will now be described in greater detail, by way of example, with reference to the schematic drawings, in which:—

25 Fig. 1 shows a room in which the personalized audio tape cassettes are recorded;

Fig. 2 shows the layout of the main pieces of equipment;

30 Fig. 3 shows a catalogue of pieces available for recording;

Fig. 4 shows a punched card and

Fig. 5 shows a room in which the personalized video tape cartridges are recorded.

35 Fig. 1 shows the set of equipment for recording the personalized tape cartridges for audio (10) and Fig. 2 shows the electronic layout of the system.

40 The cabinet (11) contains the computer (12) and the reader unit (13) for the punched cards (14). (see also Fig. 4.) The computer itself (12) comprises: the transit memory unit (16), the logic-mathematical unit (17) the working memory unit (18) and the operation and control unit (19). By means of the set of indicator lights (20), the various operational stages can be followed from the outside. The card reader unit has two compartments (21) and (22) to hold the incoming cards (14') and the outgoing cards (14'') respectively.

50 Reading is controlled by the hand-operated selector buttons (23) and (24). The cabinet (25) contains the data store (26).

55 The cabinet comprises a set of magnetic tape discs (27). The manual controls (28) are arranged on the outside and the set of indicator lights (29) show the operative stages.

60 Cabinet (30) consists of a series of units (31) for recording the tape cartridges for audio (10) each of which is connected to a circuit (32) constituting the peripheral memory.

65 The upper surface (31) of each unit is designed to accommodate the cartridges in the recess (33), the visualizer (34) for recording control, the push buttons (35) for operation and (36) for putting the tape cartridge in and taking it out. The three

cabinets are connected to each other by the cables (38), (39) and (40).

70 Fig. 5 illustrates a complex similar to the one described above with the exception of cabinet (30') which in this case is composed of a unit (41) for recording tape cartridges for video (42) connected to a circuit of peripheral memories.

75 The following can be noted on the upper surface of the unit (41): the recess (43) for holding the cartridges, the push button (45) for operation and (46) for putting the cartridges in and taking them out. Above this is the monitor (44) for controlling the recording, and the display (47) showing the customer's code. The catalogue (48) giving the musical repertoire prepared by the makers and made available to the user (Fig. 3) is divided into three parts: "pieces" (49), "singers" (50) and "orchestras" (51). Each section is divided again into three columns and, for each piece, lists: title and performer (52), code number (53) and performance time (54) in minutes and seconds.

80 As the tape (10) recording time and also the time for each piece are known, the user makes his choice on this basis and decides the number of pieces which the tape cartridge (10) for audio must contain after which he forwards his request to the manufacturer listing, tape by tape, the preferred recordings and the code number for each piece.

95 On receiving the order, the manufacturer has a card specially punched for insertion into the computer.

100 The first line on the card is used for punching the code number (55) distinguishing the customer's order, and the following lines are used for punching codes (53) for the requested pieces.

105 The card reader (13) takes the details from the card (14) and transfer them to the transit memory (16) controlled by the control unit (19) which, with the aid of the other two units—the logic-mathematical (17) and the working memory (18) make a search for the requested pieces in the data store (26).

110 In accordance with their code (53) all the pieces listed in the catalogue (48), with all the data for controlling their recording, are recorded on the tapes in this store.

115 Each group of pieces, constituting one tape cartridge for audio (10), is sent to the peripheral memories (32), (32') etc., which in turn control the work of the recording boxes (31), (31') etc.

120 The customer's order code number (55) is shown on the display (37) of each recording unit (31). The process is thus entirely automatic and is operated throughout all its stages by the computer (12). All that has to be done manually is to put the cards (14) into their input compartment and replace the tape cartridge for audio (10) with another one.

125 The complex for recording tape cartridges for video (42) (Fig. 5) works on the same principle as that described above. Obviously, in this case the contents of the data store and of the catalogue consists of pieces for video such as parts of

recitals, films, television shorts, etc., and of recordings generally for tape cartridges for video.

In the same way the computer will contain the parameters for controlling recordings of tape cartridges for video instead of tape cartridges for audio.

The advantages of the invention are thus clear. What happens in practice is that perfect correspondence is established between a rational form of production and sale on the part of the manufacturer and satisfaction of the user's preferences.

The user, practically speaking without any increased cost to himself, can have a tape recorded in accordance with his own wishes and thus hear pieces specially chosen, and in the desired order.

As the applications of the invention have been described as examples and are not limited to these, it is understood that any equivalent application of the inventive concepts explained and any present product and/or one operating in accordance with the characteristics of the invention, will be covered by its field of protection.

25 Claims

1. An electronic-mechanical automatic system for the production of audio and/or video tape, cassettes cartridges or the like wherein the system comprises a central memory store of pieces for recording on the cassettes, cartridges or the like, a computer with an input device for pre-recorded instruction, an apparatus for recording tape cassettes, cartridges or the like connected to storage means, the computer making a search in the central memory store for one or more pieces, according to the pre-recorded instructions and sending these pieces to the storage means of the recording unit, this unit then recording on tapes contained in the cassettes, cartridges or the like, pieces corresponding to those indicated by the pre-recorded instructions and in the same order as the pre-recorded instructions, the pre-recorded instructions having been prepared by the manufacturer of tape, cassettes, cartridges or the like in accordance with the instructions he has received from the customer.

2. An automatic electronic-mechanical system for the production of audio cartridges, cassettes or the like for audio wherein the system comprises a central memory store of musical recordings for audio cassettes, a computer with an input device for pre-recorded instructions, an apparatus for recording audio tape cassettes connected to storage means, the computer making a search in the central memory store for one or more musical works, according to the instructions provided at its input device and sending these recordings to the storage means of the recording unit, this unit then recording on audio tape cassettes pieces corresponding to those indicated by input device and in the same order as indicated by the input device, the pre-recorded instructions having been prepared by the

65 manufacturer of the audio tape cassettes in accordance with the instructions he has received from the customer.

3. A system as claimed in claim 2, wherein the input device is a punched card reader and the pre-recorded instructions are punched in the card.

4. A system as claimed in claim 2 or 3 wherein the manufacturer provides customers with a catalogue or the like listing titles of the various works the manufacturer has available, the names of those executing the works, such as singers, orchestras, musicians, actors, lecturers, and performers generally, a specific code number for each title, the playing time taken by the whole tape and by each piece, to enable the customer to choose from the catalogue the musical works he wishes to have recorded on a single tape, to inform the manufacturer of his choice by stating the code number so that the manufacturer can prepare the prerecorded instructions with which to operate the computer, the latter then automatically working the recording equipment.

5. An automatic electronic-mechanical system for the production of video tape cartridges wherein the system comprises a central memory store in which a number of television film shows, recitals, films and pieces generally for video tape cartridges are recorded; a computer with an input device for pre-recorded instructions, and an apparatus for recording video tape cartridges connected to storage means; the computer making a search in the central memory store for one or more pieces for video tape cartridges in accordance with the instructions at the input device, and transmitting these pieces to the storage means of the recording unit, this unit then recording on the video tapes contained in the cartridges, pieces corresponding to those indicated by the pre-recorded instructions and in the same order as the pre-recorded instructions, the pre-recorded instructions having been prepared by the manufacturer of video tape cartridges in accordance with the instructions given him by the customer.

6. A system as claimed in claim 5, wherein the input device is a punched card reader and the pre-recorded instructions are punched in the card.

7. An electronic-mechanical automatic system for the production of video tape cartridges as claimed in claim 5 or 6, wherein the manufacturer provides the customers with a catalogue or similar listing giving the titles of the pieces for video tapes that the manufacturer has available, the performers and creators of such pieces, a specific code number for each title, the playing time taken by the whole tape and by each piece, to enable the user to choose from the catalogue the pieces he wants to have recorded on a single video tape, to inform the manufacturer of his choice by stating the code number so that the manufacturer can prepare the pre-recorded instructions with which to operate the computer, the latter then automatically working the recording equipment.

8. An automatic electronic-mechanical system

for the production of audio cassettes and/or video cartridges as claimed in claim 1 and claim 5 wherein the same computer is used for both video and audio recordings.

5 9. An automatic electronic-mechanical system for the production of audio cassettes and/or video cartridges substantially as described herein with reference to the drawings.

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